Tesla Power Project, Amendment #1 (01-AFC-21C)
Data Requests

Technical Area: Air Quality
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BACKGROUND

Describe PM2.5 Impacts

The U.S. EPA recently revised the national ambient air quality standards (NAAQS) for particulate matter less than 2.5 micrometers (PM2.5) downward to 35 micrograms per cubic meter ($\mu g/m^3$) 24-hour average concentration (see Federal Register Vol. 71, No. 200, p. 61144, October 17, 2006; effective December 18, 2006). The previous standard was 65 $\mu g/m^3$.

The Air Quality Modeling Supplement of the November 2006 petition for the post-certification amendment shows the impacts of particulate matter less than 10 micrometers (PM10), but does not show impacts of PM2.5. A comparison of project PM2.5 impacts and applicable national and California ambient air quality standards should be included with the petition. To accomplish this, the PM2.5 emission rate for the cooling tower should be estimated. This is especially relevant given the proposed change in cooling tower emission limits.

DATA REQUEST

1. Please quantify the PM2.5 emission rate for the proposed cooling tower.

2. Please provide an air dispersion modeling analysis of the PM2.5 impacts of all project sources including a comparison of PM2.5 impacts with applicable ambient air quality standards and thresholds.

BACKGROUND

Status of Emission Reduction Credit Ownership

The project license depends on an emission reduction credit (ERC Certificate #821) that is presently owned by Waste Management of Alameda County for PM10 emission reductions that are expected to occur at the Altamont Landfill. Attachment B of the petition shows that Midway Power holds an option to purchase this ERC from Waste Management and that the option expires March 31, 2007. It is not clear if the project owner intends to purchase the ERC before the option agreement expires.

DATA REQUEST

3. Please describe the proposed timing and strategy for securing ownership of the Altamont Landfill ERC and the likelihood of extending the expiration date for the option contract beyond March 31, 2007.

BACKGROUND

Mitigation for PM10 and PM2.5 Impacts

The proposed amendment would require the project owner to surrender additional PM10 emission reduction credits to satisfy Bay Area Air Quality Management District (BAAQMD)

offset requirements for cooling tower emissions. Sulfur dioxide (SO2) ERCs would be used to meet the PM10 offset requirements and mitigate project PM10 impacts. This requires inter-pollutant trading to exchange SO2 reductions for PM10 emissions, and the applicant proposes a ratio of 3-to-1. This ratio has not yet been analyzed by the Energy Commission staff for this project because inter-pollutant trading of SO2 credits was not proposed for the 2004 project license. A review of the BAAQMD Emission Bank Status website[1] shows that Midway Power, LLC now owns 51.75 tons per year (tpy) of SO2 reductions in ERC #1000 and other SO2 credits that were not contemplated in the 2004 decision. These credits change how the project would comply with BAAQMD regulations and the Energy Commission's CEQA mitigation. The April 2003 Final Staff Assessment included AIR QUALITY Tables 19 and 20, which showed how ERCs would be effective for CEQA mitigation. These tables and the recommended mitigation, primarily in Condition of Certification AQ-C7, will need to be updated to reflect the changes in ERCs. Staff can prepare the necessary revisions to AQ-C7, if the ERC information and proposed mitigation is now up-to-date. The petition did not identify any proposed modifications to Conditions of Certification AQ-C6 through AQ-C9 related to CEQA mitigation of project operations.

DATA REQUEST

4. Please provide an analysis or a summary of past project analyses that justifies use of a 3-to-1 inter-pollutant trading ratio for exchanging SO2 reductions for PM10 emissions in the jurisdiction of the Bay Area Air Quality Management District.

5. Please verify whether the CEQA mitigation provided by holdings of ERCs is up-to-date (currently shown as of October 10, 2006 in Attachment B of the petition).

6. Please identify any proposed changes to Condition of Certification AQ-C7, related to CEQA mitigation, if necessary. For example, update as needed any information related to the Air Quality Mitigation Agreement or ERCs owned in the bank administered by the San Joaquin Valley Air Pollution Control District.

7. Please identify any proposed changes to Conditions of Certification AQ-C6 through AQ-C9 related to CEQA mitigation of project operations, if necessary.

BACKGROUND

Revised NOx and CO Startup Emissions

Proposed changes to Condition of Certification AQ-27 deal with the nitrogen oxide (NOx) and carbon monoxide (CO) hourly emission limits during normal operations including startups and shut-downs. The changes to the emissions of all four combustion turbines (CTGs) and heat recovery steam generators (HRSGs) should be explained in more detail.

The proposal to limit normal operations to 640 lb/hr of NOx in AQ-27 exceeds the maximum emissions expected to occur during commissioning in AQ-13 (622 lb/hr of NOx). It is not clear why NOx emission limits for normal operations should exceed those for commissioning. Additionally, the daily NOx limits in AQ-13 exceed those requested in AQ-28. The Project

[1] http://www.baaqmd.gov/pmt/emissions_banking/banking.htm

Owner's December 2005 request to BAAQMD for modification of the Final Determination of Compliance indicates that the commissioning limits in AQ-13 should equal the maximum emission limits in AQ-27 and AQ-28.

Table 2-1 of the Air Quality Modeling Supplement shows normal operating emissions of NOx at 190 lb/hr and 130 lb/hr per CTG during startup and normal operation, respectively, but the basis for the 130 lb/hr rate is not explained. Condition of Certification AQ-26 constrains simultaneous startup of two CTGs until the first pair of the other two CTGs reach normal operation. This means that combined NOx emissions should be about 411.3 lb/hr (2 @ 190 lb/hr plus 2 @ 15.67 lb/hr) instead of 640 lb/hr requested in AQ-27. CO emissions should be about 2,238.16 lb/hr (2 @ 1,100 lb/hr plus 2 @ 19.08 lb/hr) instead of 2,770 lb/hr requested in AQ-27.

DATA REQUEST

8. Please provide the basis for the NOx and CO combined emission and calculations supporting the proposed emission limits in AQ-27, and revise the proposed limits in AQ-27 and AQ-13, as needed.

9. Please verify that the emission limits in AQ-27 and AQ-28 in the petition are correct given the expected commissioning emissions in AQ-13 and operating constraints of AQ-26.

BACKGROUND

Cumulative Sources

The Air Quality Modeling Supplement Section 3.1 (p. 4) in the petition identifies "other sources" (East Altamont Energy Center and Wellhead Electric power plant) beyond Tesla that were considered in the modeling. It is not clear if this inventory of sources represents the results of a complete survey for all possible sources necessary for a complete cumulative analysis. The cumulative impact analysis should address all "reasonably foreseeable" future projects (i.e., permitted or with an application under review by any local air district, including sources not yet operating). The petition should address "cumulative sources" in a manner consistent with the Energy Commission Data Adequacy requirement to investigate sources within 6 miles (approximately 10 kilometers).

DATA REQUEST

10. Please describe the process used to identify the cumulative "other sources" in the Air Quality Modeling Supplement and verify that the impacts analysis includes all sources including "reasonably foreseeable" future projects in a manner consistent with Energy Commission requirements.